



# TRENDNET



## User's Guide

**TEW-652BRP**

H/W: V1.0R

## **Regulatory notes and statements**

### **Wireless LAN, Health and Authorization for use**

Radio frequency electromagnetic energy is emitted from Wireless LAN devices. The energy levels of these emissions however are far much less than the electromagnetic energy emissions from wireless devices like for example mobile phones. Wireless LAN devices are safe for use frequency safety standards and recommendations. The use of Wireless LAN devices may be restricted in some situations or environments for example:

- Onboard airplanes, or
  - In an explosive environment, or
  - In case the interference risk to other devices or services is perceived or identified as harmful
- In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

### **Regulatory Information/disclaimers**

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The Manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, of the substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

### **Federal Communication Commission Interference Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### **IMPORTANT NOTE:**

#### **FCC Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

## **Europe – EU Declaration of Conformity**

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

### **EN 60 950-1: 2001 +A11: 2004**

Safety of Information Technology Equipment

### **EN 50385: 2002**

Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110MHz - 40 GHz) - General public

### **EN 300 328 V1.7.1 (2006-10)**

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

### **EN 301 489-1 V1.6.1 (2005-09)**

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

### **EN 301 489-17 V1.2.1 (2002-08)**

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.



# €0560!

[cs] Česky [Czech]	<i>TRENDnet</i> tímto prohlašuje, že tento <i>TEW-652BRP</i> je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
[da] Dansk [Danish]	Undertegnede <i>TRENDnet</i> erklærer herved, at følgende udstyr <i>TEW-652BRP</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EU.
[de] Deutsch [German]	Hiermit erklärt <i>TRENDnet</i> dass sich das Gerät <i>TEW-652BRP</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
[et] Eesti [Estonian]	Käesolevaga kinnitab <i>TRENDnet</i> seadme <i>TEW-652BRP</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
[en] English	Hereby, <i>TRENDnet</i> declares that this <i>TEW-652BRP</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
[es] Español [Spanish]	Por medio de la presente <i>TRENDnet</i> declara que el <i>TEW-652BRP</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
[el] Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ <i>TRENDnet</i> ΔΗΛΩΝΕΙ ΟΤΙ <i>TEW-652BRP</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
[fr] Français [French]	Par la présente <i>TRENDnet</i> déclare que l'appareil <i>TEW-652BRP</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
[it] Italiano [Italian]	Con la presente <i>TRENDnet</i> dichiara che questo <i>TEW-652BRP</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo <i>TRENDnet</i> deklarē, ka <i>TEW-652BRP</i> atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo <i>TRENDnet</i> deklaruoją, kad šis <i>TEW-652BRP</i> atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
[nl] Nederlands [Dutch]	Hierbij verklaart <i>TRENDnet</i> dat het toestel <i>TEW-652BRP</i> in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
[mt] Malti [Maltese]	Hawnhekk, <i>TRENDnet</i> , jiddikjara li dan <i>TEW-652BRP</i> jikkonforma mal-htigijiet essenziali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
[hu] Magyar [Hungarian]	Alulírott, <i>TRENDnet</i> nyilatkozom, hogy a <i>TEW-652BRP</i> megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
[pl] Polski [Polish]	Niniejszym <i>TRENDnet</i> oświadcza, że <i>TEW-652BRP</i> jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
[pt] Português [Portuguese]	<i>TRENDnet</i> declara que este <i>TEW-652BRP</i> está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
[sl] Slovensko [Slovenian]	<i>TRENDnet</i> izjavlja, da je ta <i>TEW-652BRP</i> v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	<i>TRENDnet</i> týmto vyhlasuje, že <i>TEW-652BRP</i> splňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
[fi] Suomi [Finnish]	<i>TRENDnet</i> vakuuttaa täten että <i>TEW-652BRP</i> tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
[sv] Svenska [Swedish]	Härmed intygar <i>TRENDnet</i> att denna <i>TEW-652BRP</i> står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

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## **ABOUT THIS GUIDE**

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Congratulations on your purchase of this IEEE 802.11b/g/n Wireless Broadband Router. This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. It provides a complete solution for Internet surfing and office resource sharing, and it is easy to configure and operate for every user.

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### **Purpose**

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This manual discusses how to install the IEEE 802.11b/g/n Wireless Home Router.

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### **Terms/Usage**

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In this guide, the term “the WLAN Router” refers to your IEEE 802.11b/g/n Wireless Home Router.

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### **Overview of this User’s Guide**

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**Introduction.** Describes the IEEE 802.11b/g/n Wireless Home Router and its features.

**Unpacking and Setup.** Helps you get started with the basic installation of the IEEE 802.11b/g/n Wireless Home Router.

**Identifying External Components.** Describes the front panel, rear panel and LED indicators of the IEEE 802.11b/g/n Wireless Home Router.

**Connecting the WLAN Router.** Tells how you can connect the IEEE 802.11b/g/n Wireless Home Router to your xDSL/Cable Modem.

**Technical Specifications.** Lists the technical (general, physical and environmental, performance and Routers settings) specifications of the IEEE 802.11b/g/n Wireless Home Router.

## **INTRODUCTION**

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With the explosive growth of the Internet, accessing information and services at any time, day or night has become a standard requirement for most people. The era of the standalone PC is waning. Networking technology is moving out of the exclusive domain of corporations and into homes with at least two computers.

This integrated access device combines Internet gateway functions with wireless LAN and Fast Ethernet switch. Designed for the business and home, it saves you the cost of installing a separate modem and ISP line for each computer, while providing ready connection for the users, with or without the network wires.

Broadband network access is also gaining ground. However, allowing more than two computers to access the Internet at the same time means less affordable, higher costs. Thus, there is a need to share one public IP address over a single Internet connection to link the home with the Internet.

The scarcity of IP addresses and using a shared Internet connection through an Internet sharing device can solve high network access costs. All linked computers can make full use of broadband capabilities over such a device.

This device not only comes equipped with a wide range of features, but also can be installed and configured right out of the box. This device supports a simple local area network and Internet access share, offering great cost savings.

The local area network connects home computers while also allowing any of the computers to access the Internet, share resources, or play online games—the basis of the family computing lifestyle.

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### **Applications:**

#### **Broadband Internet access:**

Several computers can share one high-speed broadband connection through wireless or wired (WLAN, LAN and WAN-Internet).

#### **Resource sharing:**

Share resources such as printers, scanners and other peripherals.

#### **File sharing:**

Exchange data, messages, and distribute files thus making good use of hard disk space.

#### **Online gaming:**

Through the local area network, online gaming and e-commerce services can be easily setup.

#### **Firewall:**

A built-in firewall function — for security and anti-hacking systems.

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## **Supported Features:**

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- Wi-Fi compliant with IEEE 802.11n and IEEE 802.11b/g standards
- 4 x 10/100Mbps Auto-MDIX LAN port and 1 x 10/100Mbps WAN port (Internet)
- Supports Cable/DSL modems with Dynamic IP, Static IP, PPPoE, PPTP, L2TP & BigPond connection types
- High-speed up to 300Mbps data rate using IEEE 802.11n connection
- 2 external antennas support high speed performance and great coverage with MIMO technology
- Firewall features Network Address Translation (NAT), and Stateful Packet Inspection (SPI) protects against DoS attacks
- Support Wi-Fi Protected Setup (WPS) for easy connection
- Universal Plug and Play (UPnP) and Application Level Gateway support for internet applications such as email, FTP, gaming, remote desktop, Net Meeting, telnet and more
- Provides additional security of enable/disable wireless SSID, Internet Access Control (MAC Address, Domain & IP Filtering)
- Easy management via web browser and remote management
- Supports 64/128-bit WEP, WPA/WPA2 and WPA-PSK/WPA2-PSK
- Works with Windows 95/98/NT/2000/XP/2003 Server/Vista, Linux and Mac OS
- Coverage up to 100 meters (330ft.) indoor;(depends on the environment)
- Coverage up to 300 meters (980ft.) outdoor;(depends on the environment)

## ***UNPACKING AND SETUP***

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This chapter provides unpacking and setup information for the IEEE 802.11b/g/n Wireless Home Router.

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### **Unpacking**

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Open the box of the WLAN Router and carefully unpack it. The box should contain the following items:

- ◆ TEW-652BRP Wireless N Home Router
- ◆ CD-Rom (User's Guide)
- ◆ Multi-Language Quick Installation Guide
- ◆ 2 x 2dBi gain dipole antenna
- ◆ External power adapter
- ◆ 1.5m (5ft) Cat.5 Ethernet Cable

If any item is found missing or damaged, please contact your local reseller for replacement.

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### **Setup**

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The setup of the WLAN Router can be performed properly using the following methods:

- ◆ The power outlet should be within 1.82 meters (6 feet) of the Broadband Router.
- ◆ Visually inspect the DC power jack and make sure that it is fully secured to the power adapter.
- ◆ Make sure that there is proper heat dissipation and adequate ventilation around the Broadband Router. Do not place heavy objects on the Broadband Router.
- ◆ Fix the direction of the antennas. Try to place the Wireless Router in a position that can best cover your wireless network. Normally, the higher you place the antenna, the better the performance will be. The antenna's position enhances the receiving sensitivity.

## **HARDWARE INSTALLATION**

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### **Front Panel**

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The figure below shows the front panel of the IEEE 802.11b/g/n Wireless Home Router.



**Front Panel**

#### **POWER**

This indicator lights green when the hub receives power, otherwise it is off.

#### **SYSTEM**

This indicator blinking green means the WLAN Router is working successfully. Otherwise, this indicator always on or off means the function of the WLAN Router has failed.

#### **WAN (Link/ACT)**

The indicators light green when the WAN port is connected to a xDSL/Cable modem successfully.

The indicators blink green while the WAN port was transmitting or receiving data from the xDSL/Cable modem.

#### **WLAN (ACT)**

This indicator lights green when there are wireless devices connected and transmitting data to the WLAN Router.

#### **LAN (Link/ACT)**

These indicators light green when the LAN ports were connected successfully.

These indicators blinking green while the LAN ports were accessing data.

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## **Rear Panel**

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The figure below shows the rear panel of the IEEE 802.11b/g/n Wireless Home Router.



**Rear Panel**

### **Antenna**

There are two 2dBi gain antennas on the rear panel for wireless connection.

### **LAN (1-4)**

Four RJ-45 10/100Mbps Auto-MDIX ports for connecting to either 10Mbps or 100Mbps Ethernet connections.

### **WAN**

In the four port broadband Router, there is an RJ-45 10/100Mbps Auto-MDIX port for the WAN that connects to the xDSL/Cable modem for Internet connectivity.

### **POWER**

Plug the power adapter to this power jack

### **RESET**

Use a pin-shaped item to push to reset this device to factory default settings. It will be a useful tool when the manager forgot the password to login, and needs to restore the device back to default settings.

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## Side Panel

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The figure below shows the side panel of the IEEE 802.11b/g/n Wireless Home Router.

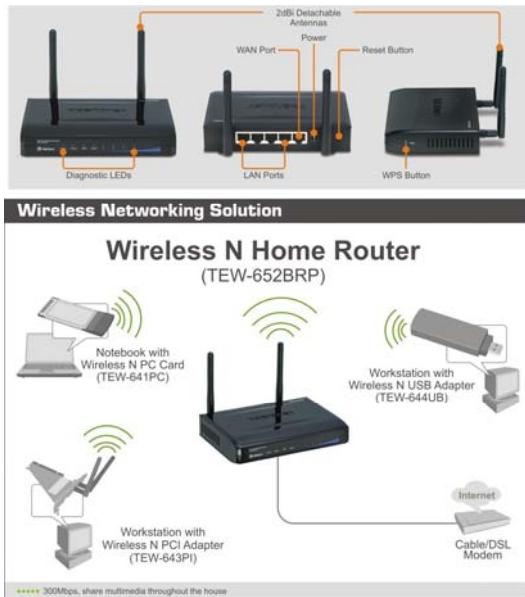


### WPS (side panel)

Push this button to execute the Wi-Fi Protected Setup process.

## **Hardware connections**

### **Connecting the WLAN Router**



1. Plug in one end of the network cable to the WAN port of the WLAN Router.
2. Plug in the other end of the network cable to the Ethernet port of the xDSL or Cable modem.
3. Use another network cable to connect to the Ethernet card on the computer system; the other end of the cable connects to the LAN port of the WLAN Router. Since the IEEE 802.11b/g/n Wireless Home Router has four ports, you can connect up to four computers directly to the unit. Then you do not have to buy a switch to connect these computers since one WLAN Router functions both as a connection-sharing unit and as a switch.

### **Check the installation**

The control LEDs of the WLAN Router are clearly visible and the status of the network link can be seen instantly:

1. With the power source on, once the device is connected to the broadband modem, the Power, System, LAN, WLAN and WAN port LEDs of the WLAN Router will light up indicating a normal status.
2. When the WAN Port is connected to the ADSL/Cable modem, the WAN LED will light up.
3. When the LAN Port is connected to the computer system, the LAN LED will light up.

## **PC NETWORK TCP/IP SETTING**

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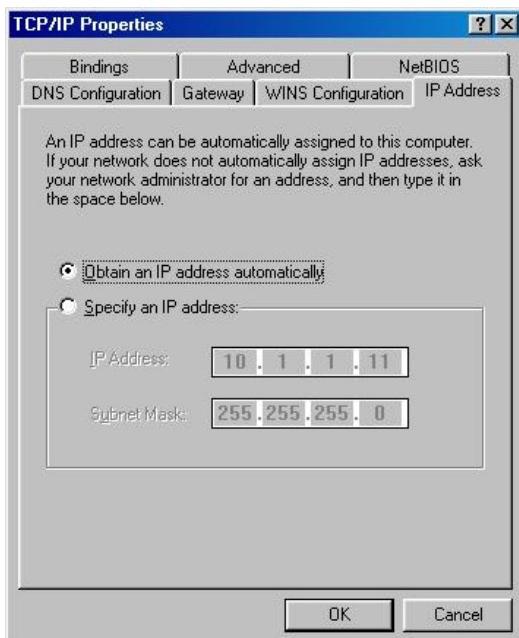
The network TCP/IP settings differ based on the computer's operating system (Win95/98/ME/NT/2000/XP/Vista) and are as follows.

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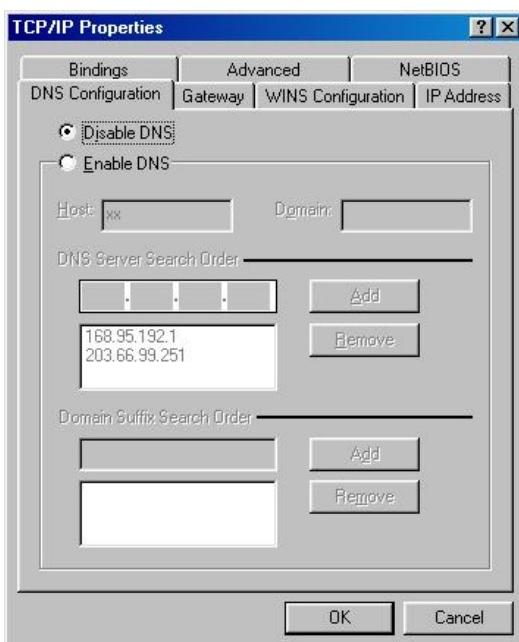
### **Windows 95/98/ME**

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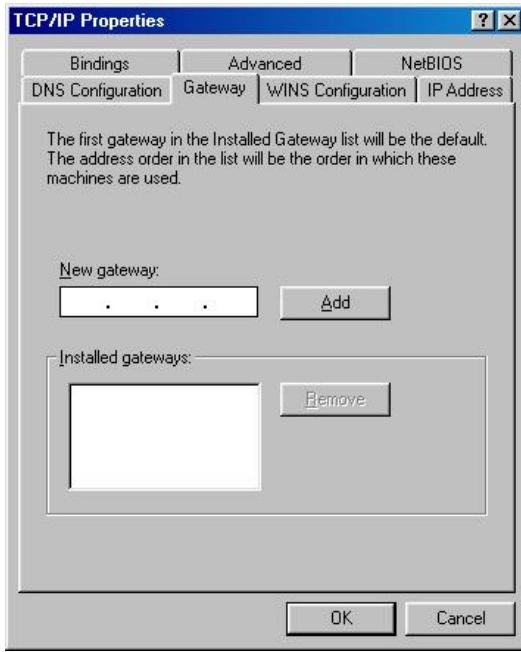
1. Click on the “**Network neighborhood**” icon found on the desktop.
2. Click the right mouse button and a context menu will be show.
3. Select “**Properties**” to enter the TCP/IP setting screen.
4. Select “**Obtain an IP address automatically**” on the “**IP address**” field.



5. Select “**Disable DNS**” in the “**DNS**” field.



6. Select “None” for the “Gateway address” field.



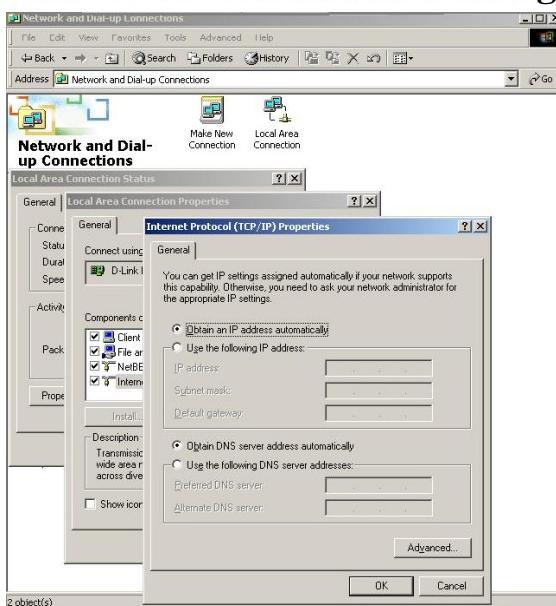
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## Windows 2000

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Double click on the “**My Computer**” icon on the desktop. When “**My Computer**” window opens, open the “**Control Panel**” and then open the “**Network dialup connection**” applet. Double click on the “Local area network connection” icon. Select “Properties” to enter the TCP/IP setting window.

1. In the “**Local area network status**” window, click on “**Properties**.”
2. In the “**Local area network connection**” window, first select TCP/IP setting and then select “**Properties**.”
3. Set both “**IP address**” and “**DNS**” to **Automatic configuration**.



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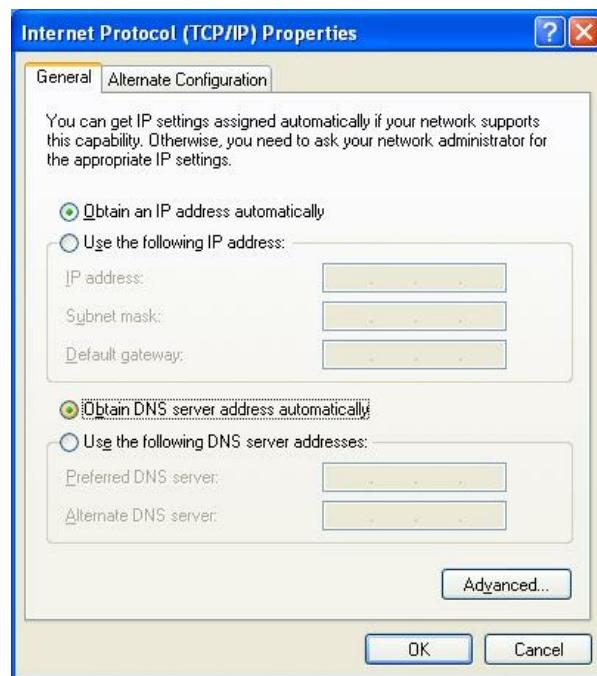
## Windows XP / Vista

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Point the cursor and click the right button on the “My Network Place” icon.

Select “properties” to enter the TCP/IP setting window.

1. Set “**IP address**” to “**Obtain an IP address automatically**.”
2. Set “**DNS**” to “**Obtain DNS server address automatically**.”



## **CONFIGURATION**

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First make sure that the network connections are functioning normally.

This WLAN Router can be configured using Internet Explorer 5.0 or newer web browser versions.

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### **Login to the WLAN Router through Wireless LAN**

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Before configuring the WLAN Router through WLAN, make sure that the SSID, Channel and the WEP is set properly.

The default setting of the WLAN Router that you will use:

- ✓ SSID: TRENDnet
  - ✓ Channel: 6
  - ✓ Security: disable
- 

### **Login to the WLAN Router**

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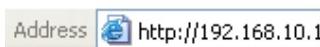
Before you configure this device, note that when the WLAN Router, make sure the host PC must be set on the **IP subnet** that can be accessed by the xDSL/Cable modem. For example, when the default network address of the xDSL/Cable modem Ethernet interface is 192.168.10.x, then the host PC should be set at 192.168.10.xxx (where xxx is a number between 2 and 254), and the default subnet mask is 255.255.255.0.

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### **Using the Web Browser**

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1. Open Internet Explorer 5.0 or above Internet browser.
2. Enter IP address <http://192.168.10.1> (the factory-default IP address setting) to the URL web address location.

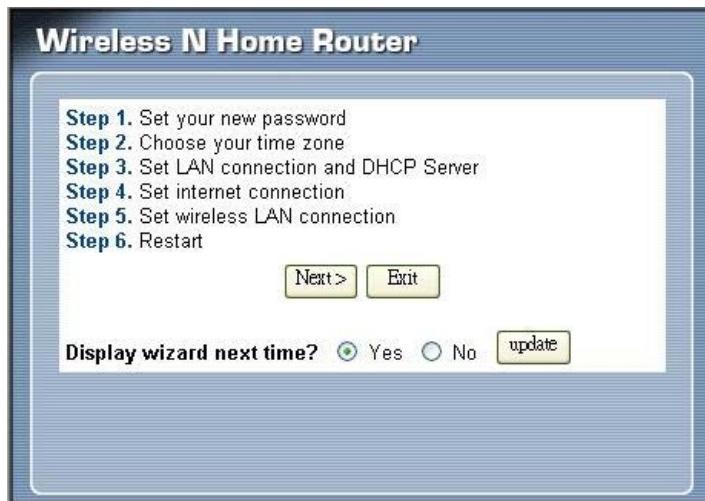


3. When the following dialog box appears, enter the user name and password to login to the main configuration window, the default username and password is “**admin**”.



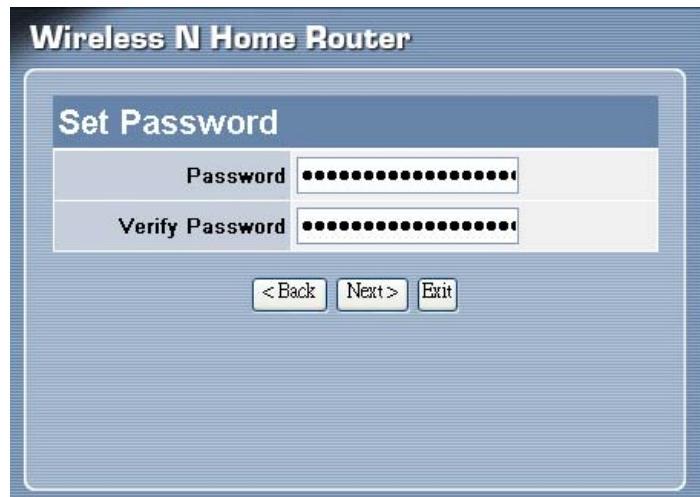
## Setup Wizard

Setup wizard is provided as part of the web configuration utility. User can simply follow the step-by-step process to get the wireless Router configuration ready to run in 6 easy steps by clicking on` the “Wizard” button on the function menu. The following screen will appear. Please click “Next” to continue.



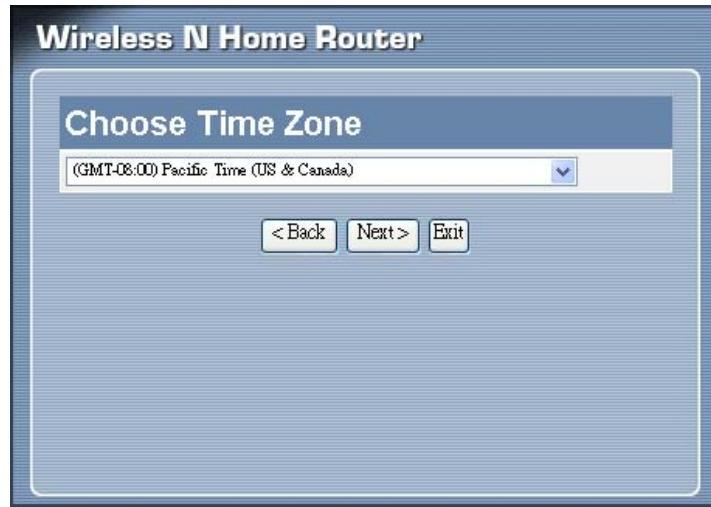
Step 1: Set your new password

Setting the new admin password of the WLAN Router. Please click “Next” to continue.



Step 2: Choose time zone

Select the time zone from the drop down list. Please click “Next” to continue.



### Step 3: Set LAN connection and DHCP server

Set user's IP address and mask. The default IP is 192.168.10.1. If the user chooses to enable DHCP, please click "Enable". DHCP enabled is able to automatically assign IP addresses. Please assign the range of IP addresses in the fields of "Range start" and "Range end". Please click "Next" to continue.

A screenshot of the "Set LAN & DHCP Server" configuration page. The title bar says "Wireless N Home Router". The main content area is titled "Set LAN & DHCP Server". It contains the following settings:

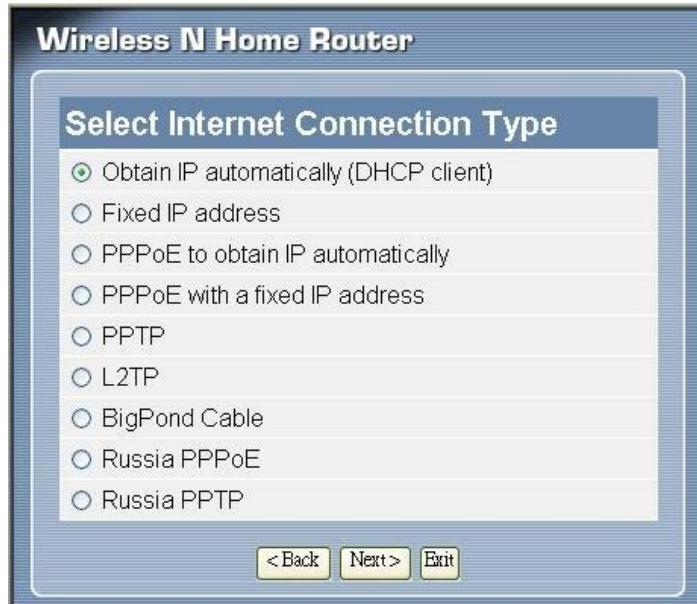
LAN IP Address	192.168.10.1
LAN Subnet Mask	255.255.255.0
DHCP Server	<input checked="" type="radio"/> Enable <input type="radio"/> Disable
Range Start	192.168.10.101
Range End	192.168.10.200

Below the form are three buttons: "< Back", "Next >", and "Exit".

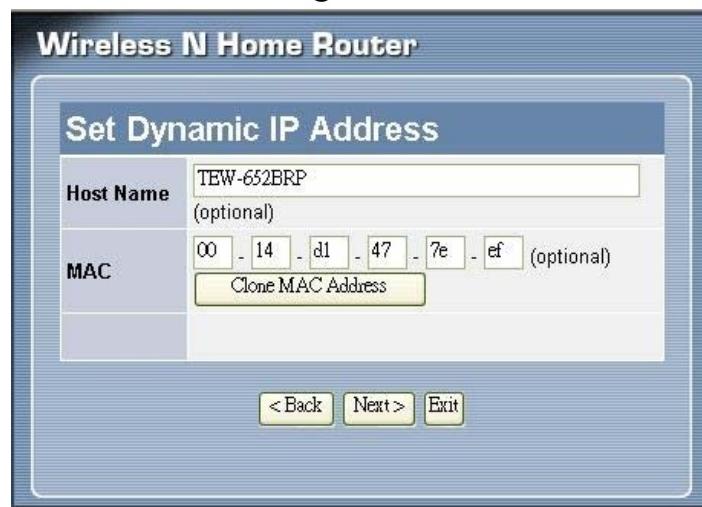
### Step 4: Set Internet connection

The WLAN Router will attempt to auto detect your Internet Connection.

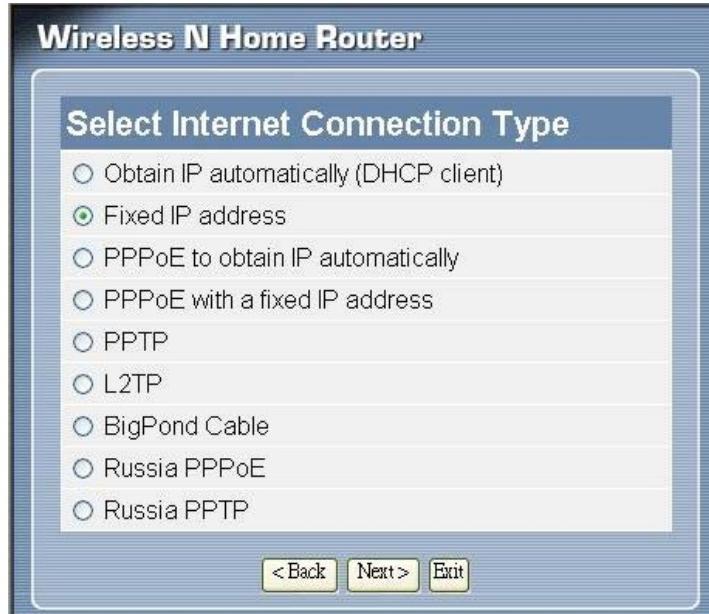
## Obtain IP automatically (DHCP client):



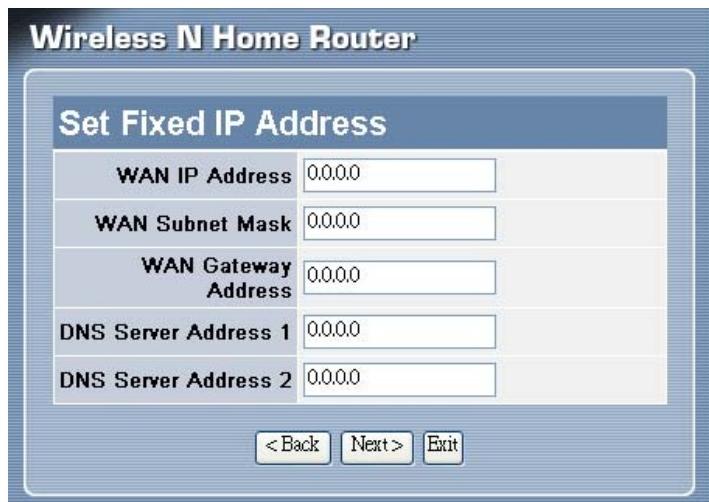
If the user has enabled DHCP server, choose "Obtain IP automatically (DHCP client)" to have the WLAN Router assign IP addresses automatically.



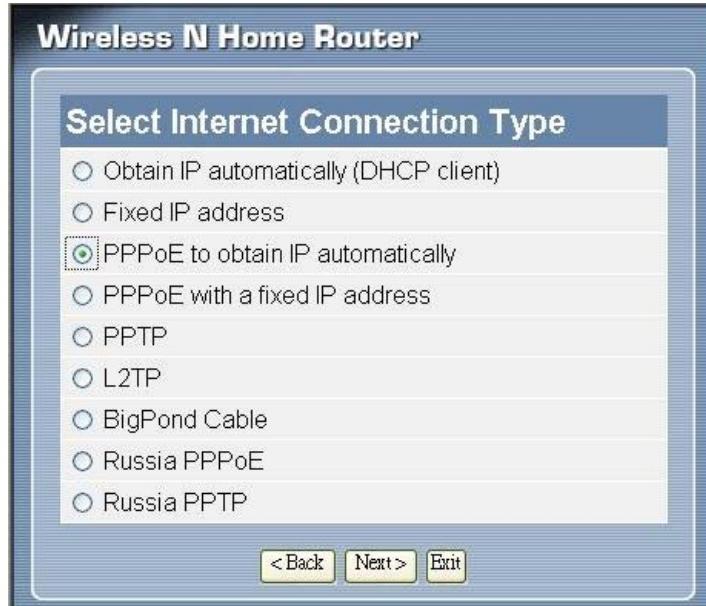
## Fixed IP Address:



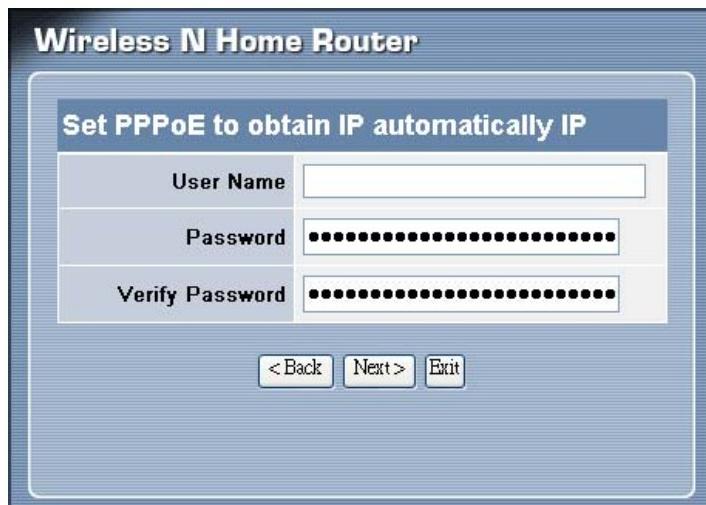
If the Internet Service Provider (ISP) assigns a fixed IP address, choose this option and enter the assigned WAN IP Address, WAN Subnet Mask, WAN Gateway Address and DNS Server Addresses for the WLAN Router.



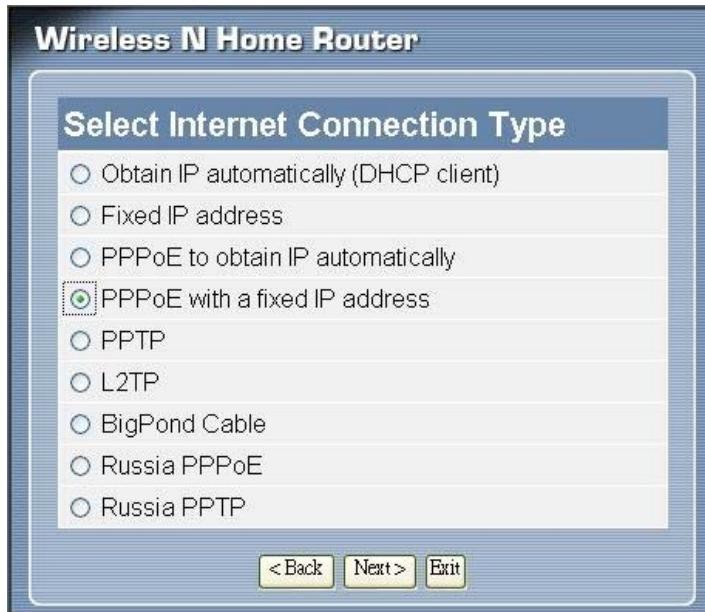
PPPoE to obtain IP automatically:



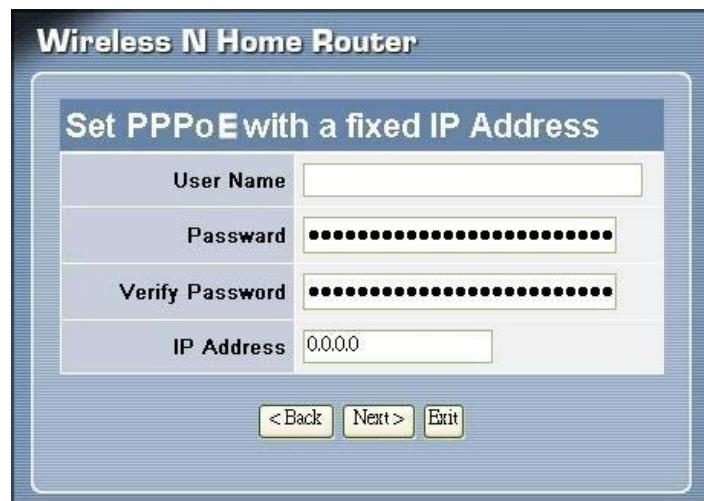
If connected to the Internet using a PPPoE (Dial-up xDSL) connection, and the ISP provides a User Name and Password, then choose this option and enter the required information.



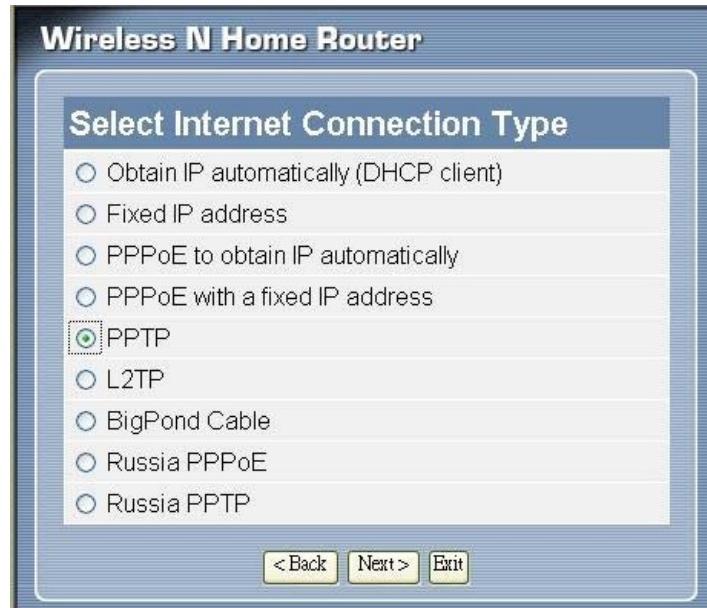
## PPPoE with a fixed IP address:



If connected to the Internet using a PPPoE (Dial-up xDSL) connection and the ISP provides a User Name, Password and a Fixed IP Address, choose this option and enter the required information.



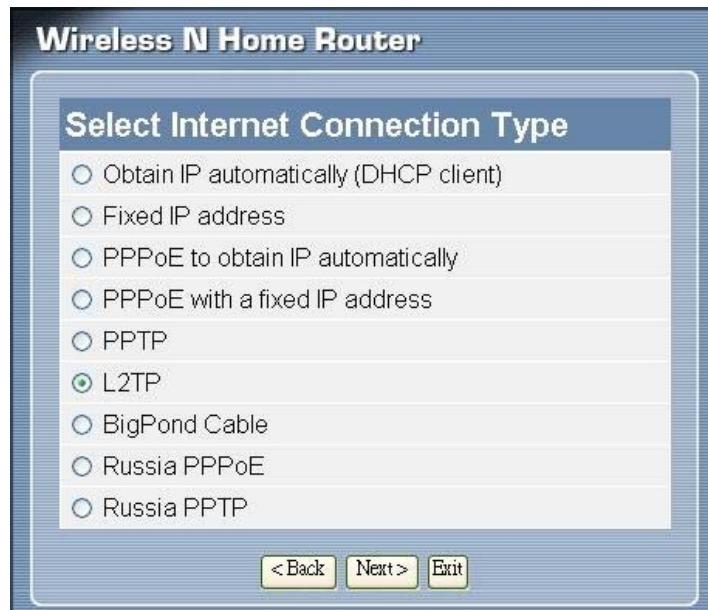
## PPTP:



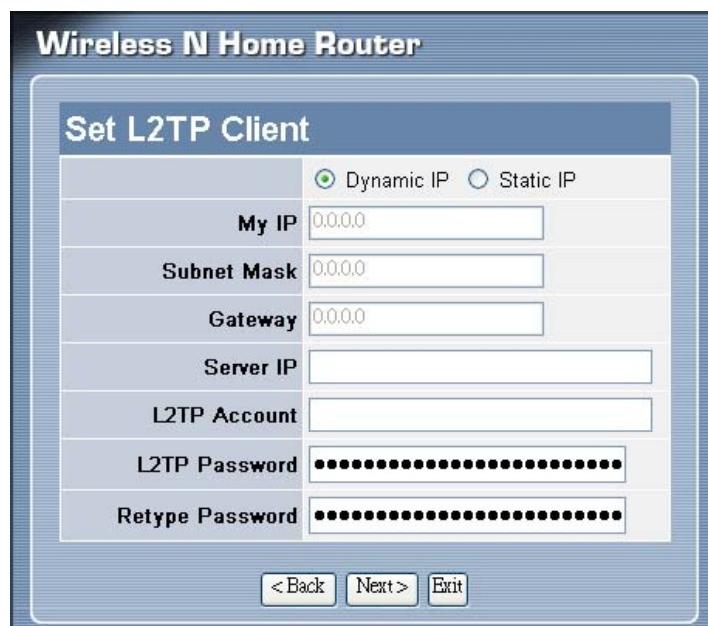
If connected to the Internet using a PPTP xDSL connection, enter your IP, Subnet Mask, Gateway, Server IP, PPTP Account and PPTP Password.

A screenshot of a Windows-style dialog box titled "Set PPTP Client". It contains fields for network configuration: "Dynamic IP" (selected) and "Static IP"; "My IP" (172.21.81.177); "Subnet Mask" (255.255.240.0); "GateWay" (0.0.0.0); "Server IP" (empty); "PPTP Account" (empty); "PPTP Password" (redacted); and "Retype Password" (redacted). At the bottom are buttons for "< Back", "Next >", and "Exit".

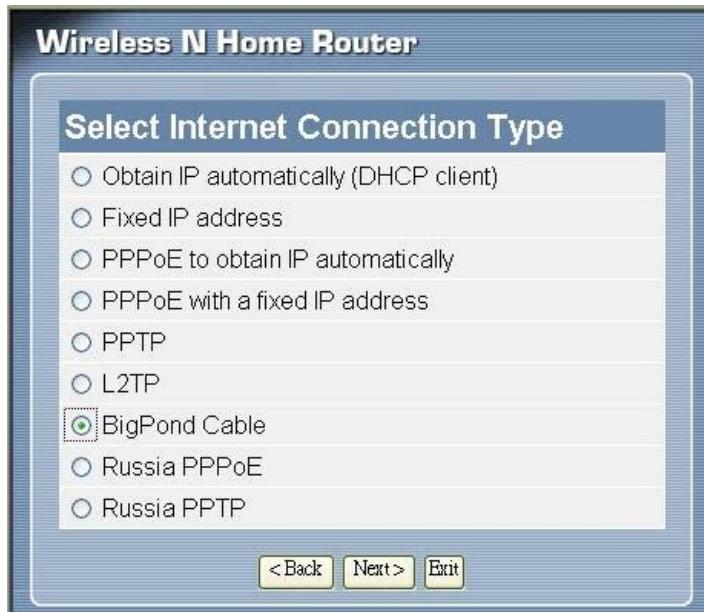
## L2TP:



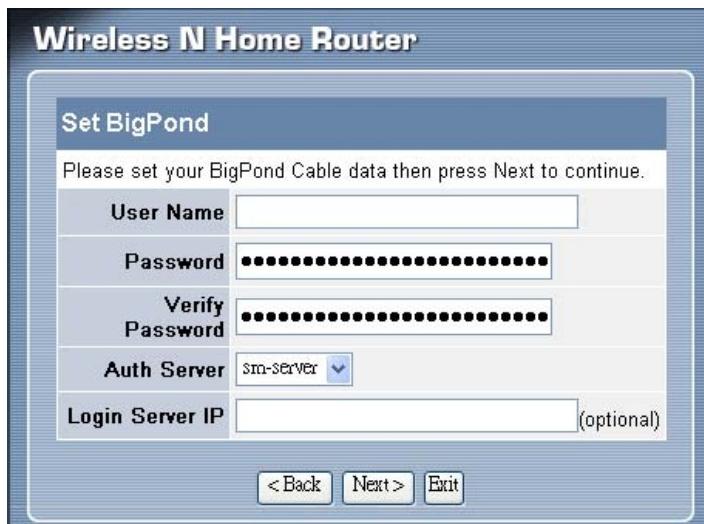
If connected to the Internet using a L2TP (Dial-up xDSL) connection and the ISP provides a Server IP, Account and Password information, choose this option and enter the required information.



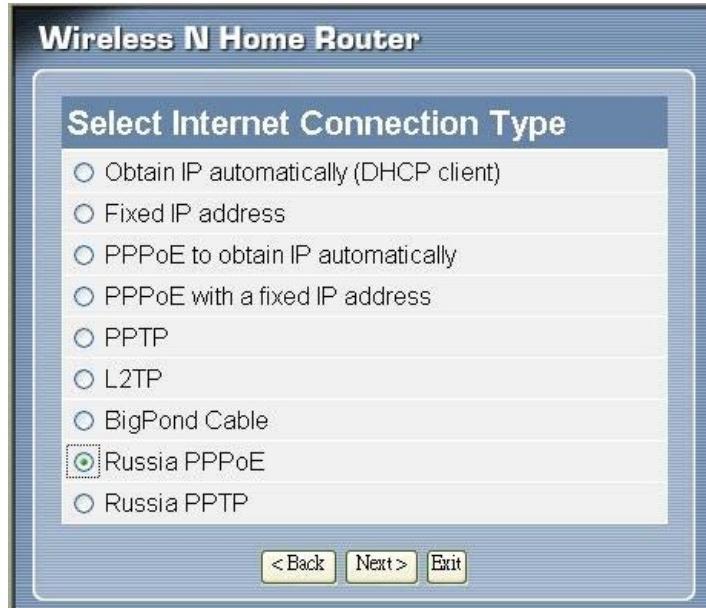
## Big Pond Cable(Australia):



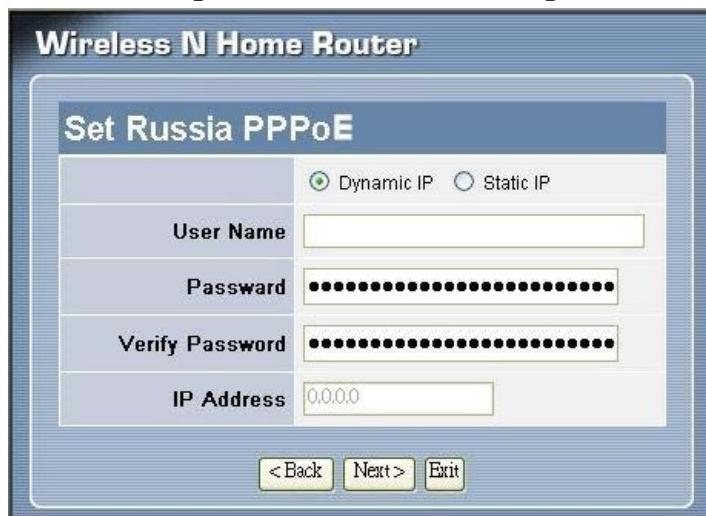
If your ISP is BigPond Cable, the ISP will provide a User Name, Password, Authentication Server and Login Server IP (Optional). Choose this option and enter the required information.



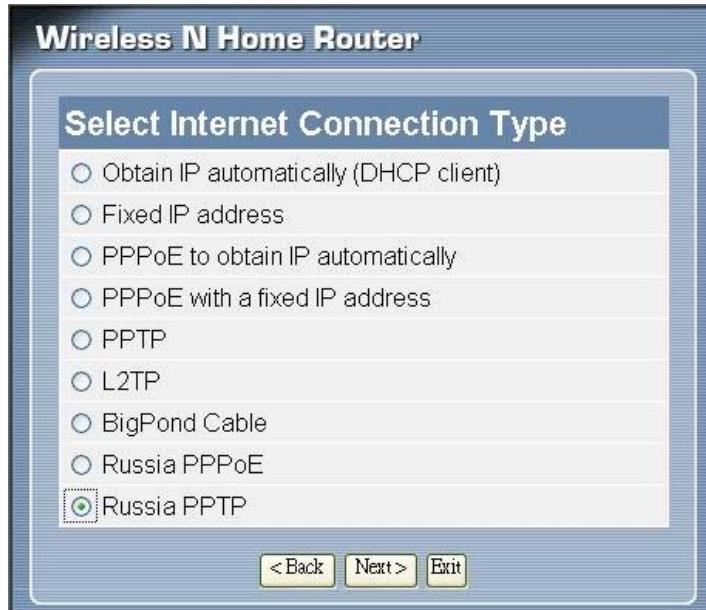
## Russia PPPoE:



If your ISP is PPPoE in Russia, the ISP will provide a User Name, Password, and Login Server IP. Choose this option and enter the required information.



## Russia PPTP:



If connected to the Internet using a PPTP (xDSL) connection and the ISP provides a Server IP, Account and Password information, choose this option and enter the required information.



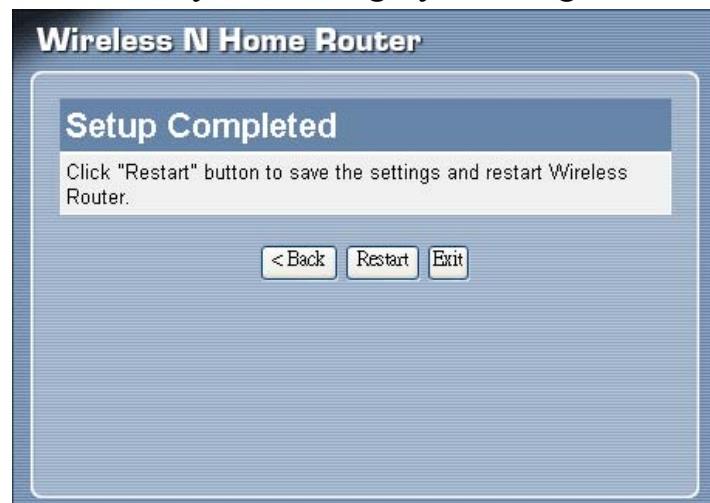
## Step 5: Set Wireless LAN connection

Click “Enable” to enable Wireless LAN. If user enables the Wireless LAN, type the SSID in the text box and select a communications channel. The SSID and channel must be the same as wireless devices attempting to connect to the WLAN Router.



## Step 6: Setup completed

The Setup wizard is now completed. The new settings will be effective after the WLAN Router restarts. Please click “Restart” to reboot the WLAN Router. If user does not want to make any changes, please click “Exit” to quit without any changes. User also can go back to modify the setting by clicking “Back”.



## Advanced configuration

### Main

The screen enables users to configure the LAN & DHCP Server, set WAN parameters, create Administrator and User passwords, and set the local time, time zone, and dynamic DNS.

#### LAN & DHCP Server

This page allows the user to configure LAN and DHCP properties, such as the host name, IP address, subnet mask, and domain name. LAN and DHCP profiles are listed in the DHCP table at the bottom of the screen.

The screenshot shows the 'LAN & DHCP Server' configuration page. The left sidebar has a 'Main' menu with 'LAN & DHCP Server' selected. The main area is titled 'LAN & DHCP Server' and contains the following fields:

Host Name	TEW-652BRP
IP Address	192.168.10.1
Subnet Mask	255.255.255.0
DHCP Server	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Start IP	192.168.10.101
End IP	192.168.10.200
Domain Name	
Lease Time	1 Week

At the bottom, there are 'Cancel' and 'Apply' buttons. Below the form, there is a table with columns 'Host Name', 'IP Address', and 'MAC Address'.

**Host Name:** Type the host name in the text box. The host name is required by some ISPs. The default host name is "TEW-652BRP".

**IP Address:** This is the IP address of the WLAN Router. The default IP address is 192.168.10.1.

**Subnet Mask:** Type the subnet mask for the WLAN Router in the text box. The default subnet mask is 255.255.255.0.

**DHCP Server:** Enables the DHCP server to allow the WLAN Router to automatically assign IP addresses to devices connecting to the LAN. DHCP is enabled by default.

All DHCP client computers are listed in the table at the bottom of the screen, providing the host name, IP address, and MAC address of the client.

**Start IP:** Type an IP address to serve as the start of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the WLAN Router.

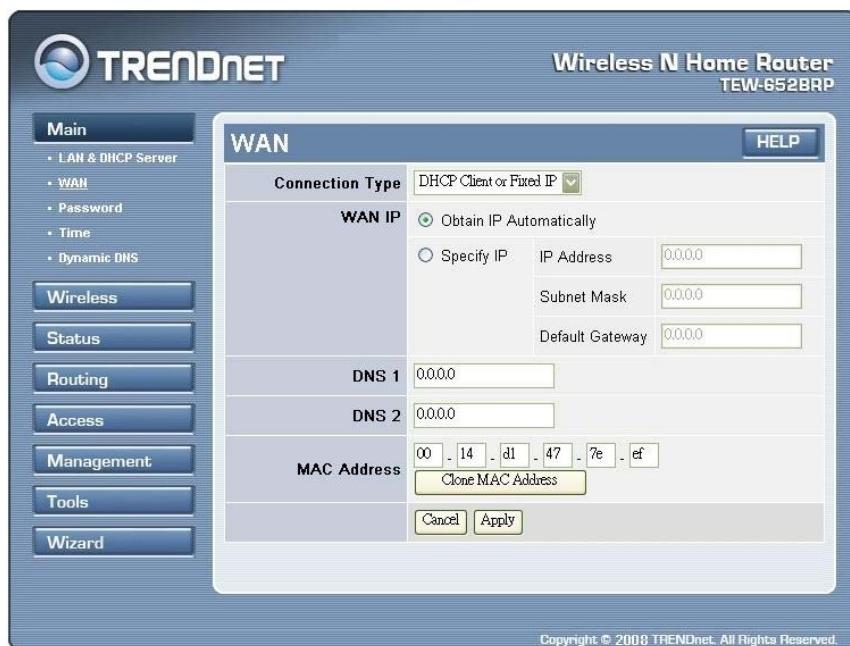
**End IP:** Type an IP address to serve as the end of the IP range that DHCP will use to assign IP addresses to all LAN devices connected to the WLAN Router.

**Domain Name:** Type the local domain name of the network in the text box. This item is optional.

**Lease Time:** The lease time specifies the amount of connection time a network user be allowed with their current dynamic IP address.

## WAN

This screen enables users to set up the WLAN Router WAN connection, specify the IP address for the WAN, add DNS numbers, and enter the MAC address.



**Connection Type:** Select the connection type, either DHCP client, Fixed IP, PPPoE, PPTP, L2TP or BigPond Cable from the drop-down list.

**WAN IP:** Select whether user wants to specify an IP address manually, or want DHCP to obtain an IP address automatically. When Specify IP is selected, type the IP address, subnet mask, and default gateway in the text boxes. User's ISP will provide with this information.

**DNS 1/2:** Type up to three DNS numbers in the text boxes. User's ISP will provide this information.

**MAC Address:** If required by user's ISP, type the MAC address of the WLAN Router WAN interface in this field.

## Password

This screen enables users to set administrative and user passwords. These passwords are used to gain access to the WLAN Router interface.

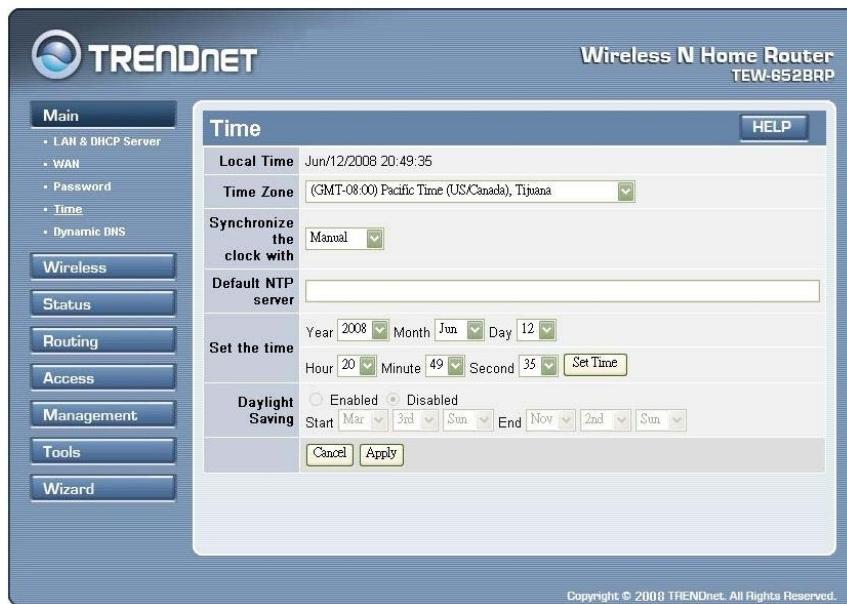


**Administrator:** Type the password the Administrator will use to log into the system. The password must be typed again for confirmation. The Administrator can also authorize users the ability to configure the WLAN Router.

**User:** Type the password the User will use to log in to the system. The password must be typed again for confirmation.

## Time

This screen enables users to set the time and date for the WLAN Router's real-time clock, select properly time zone, and enable or disable daylight saving.



**Local Time:** Displays the local time and date.

**Time Zone:** Select the time zone from the drop-down list.

**Synchronize the clock with:** Select the clock adjustment method form the drop-down list.

Automatic: Automatically adjust the system time from NTP Server.

Manual: Manually adjust the system time when you press the **Set Time** button.

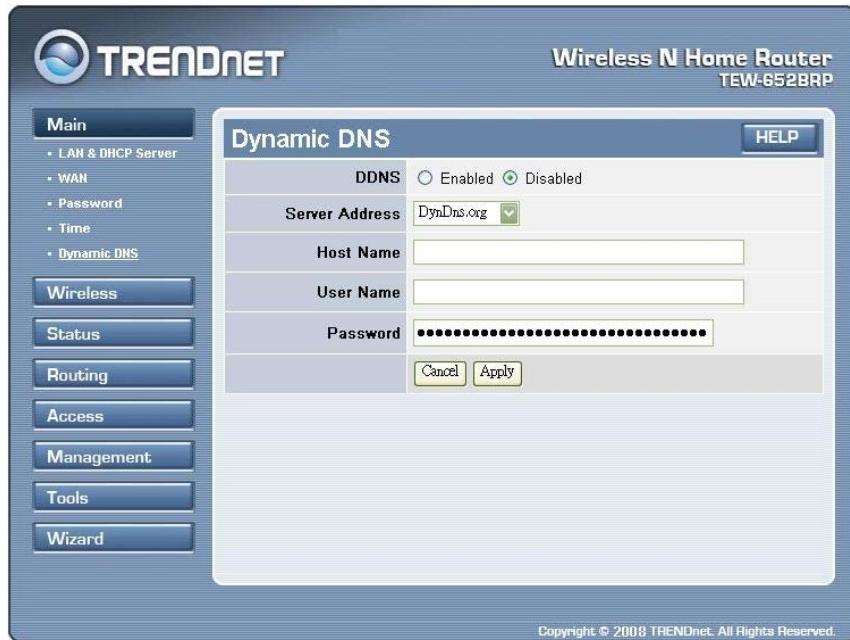
**Default NTP server:** The Simple Network Time Protocol (SNTP) server allows the WLAN Router to synchronize the system clock to the global Internet through the SNTP Server. Specify the NTP domain name or IP address in the text box.

**Set the time:** Manually setting the WLAN Router system time, press the **Set Time** button to update the system time.

**Daylight Saving:** Enables users to enable or disable daylight saving time. When enabled, select the start and end date for daylight saving time.

## Dynamic DNS

This synchronizes the DDNS server with your current Public IP address when you are online. First, you need to register your preferred DNS with the DDNS provider. Then, please select the DDNS address in the Server Address and fill the related information in the below fields: Host Name, User Name and Password.



## Wireless

This section enables users to configuration the wireless communications parameters for the WLAN Router.

### Basic

This page allow user to enable and disable the wireless LAN function, create a SSID, and select the channel for wireless communications.

The screenshot shows the 'Basic' configuration page for the TRENDnet TEW-652BRP. The left sidebar has a 'Wireless' section with 'Basic' selected. The main form contains the following fields:

Wireless	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
SSID	TEENDnet
Channel	6 <input checked="" type="checkbox"/> (Domain: FCC)
802.11 Mode	Mixed 802.11n, 802.11g and 802.11b
Channel Width	Auto 20/40 MHz
SSID Broadcast	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
WMM	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

At the bottom are 'Cancel' and 'Apply' buttons. A copyright notice at the bottom right reads: Copyright © 2008 TRENDnet. All Rights Reserved.

**Enable/Disable:** Enables or disables wireless LAN via the WLAN Router.

**SSID:** Type an SSID in the text box. The SSID of any wireless device must match the SSID typed here in order for the wireless device to access the LAN and WAN via the WLAN Router.

**Channel:** Select a transmission channel for wireless communications. The channel of any wireless device must match the channel selected here in order for the wireless device to access the LAN and WAN via the WLAN Router.

**802.11 Mode:** Select one of the following:

- **802.11b only** - Select if you are using 802.11b wireless clients only.
- **802.11g only** - Select if you are using 802.11g wireless clients only.
- **802.11n only** - Select if you are using 802.11n wireless clients only.
- **Mixed 802.11b and 802.11g** - Select if you are using both 802.11b and 802.11g wireless clients.
- **Mixed 802.11n, 802.11g, and 802.11b** - Select if you are using a mix of 802.11n, 11g, and 11b wireless clients.

**Channel Width:** Select the Channel Width:

- **Auto 20/40** - Select this option if you are using both 802.11n and non-802.11n wireless devices.
- **20MHz** – This is the default setting. Select this option if you are not using any 802.11n wireless clients.

**SSID Broadcast:** While SSID Broadcast is enabled, all wireless clients will be able to view the WLAN Router's SSID. For security purposes, users may want to disable SSID Broadcast to ensure only authorized clients have access.

**WMM:** Enable the Wi-Fi Multi-Media will offer Wi-Fi networks stable that improve the user experience for audio, video, and voice applications by prioritizing data traffic.

## Security



**Authentication Type:** The authentication type default is set to open system. There are four options: Disabled, WEP, WPA, WPA2 and WPA-Auto.

## WEP Encryption



**WEP:** Open System and Shared Key requires the user to set a WEP key to exchange data with other wireless clients that have the same WEP key..

**Mode:** Select the key type: ASCII or HEX

**WEP Key:** Select the level of encryption from the drop-down list. The WLAN Router supports, 64 and 128-bit encryption.

**Key 1 ~ Key 4:** Enables users to create up to 4 different WEP keys. Manually enter a set of values for each key. Select a key to use by clicking the radio button next to the key.

## WPA/WPA2/WPA-Auto Security

Three side-by-side screenshots of the 'Security' configuration page for the TREW-652BRP. Each has 'Wireless' selected in the sidebar. The first is for 'WPA', the second for 'WPA2', and the third for 'WPA-AUTO'. Each screen shows 'PSK / EAP' selected for 'Authentification Type', and 'AES' selected for 'Cipher Type'. 'Passphrase' and 'Confirmed Passphrase' fields are filled with '\*\*\*\*\*'. At the bottom are 'Cancel', 'Apply', and 'Clear' buttons.

If WPA, WPA2 or WPA-Auto EAP is selected, the above screen is shown. Please set the length of the encryption key and the parameters for the RADIUS server.

**Cipher Type:** Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

## RADIUS Server:

1. Enter the IP address, Port used and Shared Secret by the Primary Radius Server.
2. Enter the IP address, Port used and Shared Secret by the Secondary Radius Server. (optional)

## WPA-PSK/WPA2-PSK Security

If WPA, WPA2 or WPA-Auto PSK is selected.



**Cipher Type:** Select the cipher type for TKIP or AES encryption, Selected Auto for auto detects the cipher type.

**Passphrase:** The length should be 8 characters at least.

## Advanced

This screen enables users to configure advanced wireless functions.



**Beacon Interval:** Type the beacon interval in the text box. User can specify a value from 25 to 1000. The default beacon interval is 100.

**RTS Threshold:** Type the RTS (Request-To-Send) threshold in the text box. This value stabilizes data flow. If data flow is irregular, choose values between 256 and 2346 until data flow is normalized.

**Fragmentation Threshold:** Type the fragmentation threshold in the text box. If packet transfer error rates are high, choose values between 1500 and 2346 until packet transfer rates are minimized. (NOTE: set this fragmentation threshold value may diminish system performance.)

**DTIM Interval:** Type a DTIM (Delivery Traffic Indication Message) interval in the text box. User can specify a value between 1 and 255. The default value is 1.

## Wi-Fi Protected Setup

This screen enables users to configure the Wi-Fi Protected Setup function.



**WPS:** Enable or Disable the WPS (Wi-Fi Protected Setup) function

**Status:** Display the state (Un-configured State/Configured State) information of WPS.

**Self-PIN Number:** Display the default PIN number of the WLAN Router.

**Client PIN Number:** Type Client PIN number the client uses to negotiate with the WLAN Router via WPS protocol. It is only used when users want their station to join the Router's network.

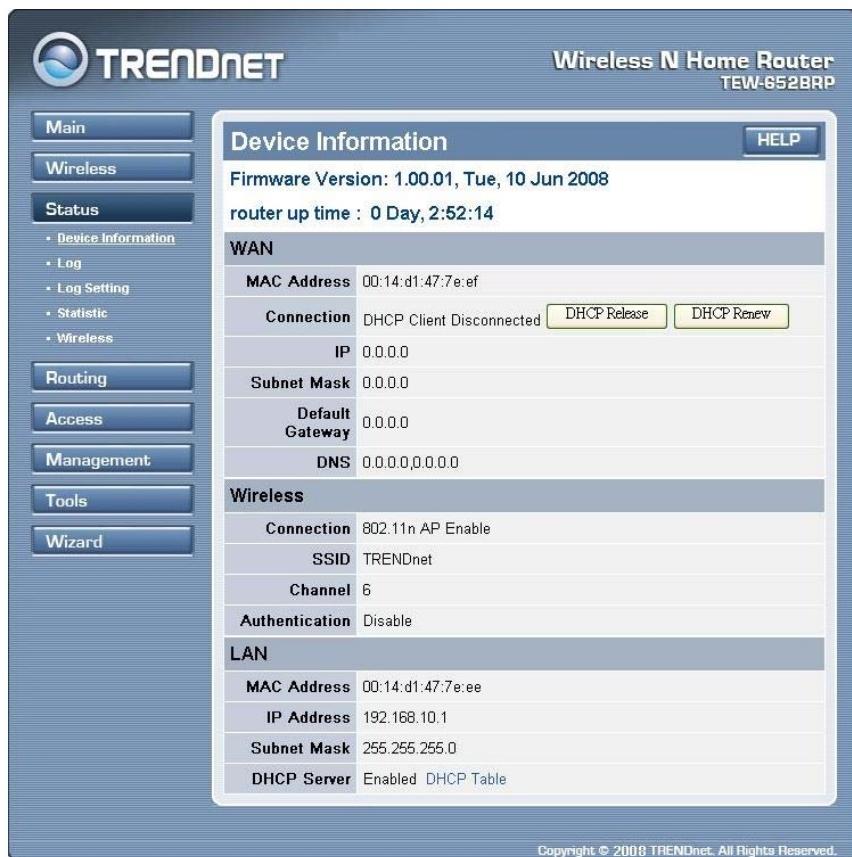
**Push Button Configuration:** Clicking the *Start PBC* button will invoke the Push Button Configuration (PBC) method of WPS. It is only used when WLAN Router acts as a Registrar.

## **Status**

This selection enables users to view the status of the WLAN Router LAN, WAN and Wireless connections, and view logs and statistics pertaining to connections and packet transfers.

## **Device Information**

This screen enables users to view the WLAN Router's LAN, Wireless and WAN configurations.



**Firmware Version:** Displays the latest build of the WLAN Router firmware interface. After updating the firmware in Tools - Firmware, check this to ensure that the firmware was successfully updated.

**WAN:** This section displays the WAN interface configuration including the MAC address, Connection status, DHCP client status, IP address, Subnet mask, Default gateway, and DNS.

**Wireless:** This section displays the wireless configuration information, including the MAC address, the Connection status, SSID, Channel and Authentication type.

**LAN:** This section displays the LAN interface configuration including the MAC address, IP Address, Subnet Mask, and DHCP Server Status. Click “DHCP Table” to view a list of client stations currently connected to the WLAN Router LAN interface.

Click “*DHCP Release*” to release all IP addresses assigned to client stations connected to the WAN via the WLAN Router. Click “*DHCP Renew*” to reassign IP addresses to client stations connected to the WAN.

## Log

This screen enables users to view a running log of Router system statistics, events, and activities. The log displays up to 200 entries. Older entries are overwritten by new entries. The Log screen commands are as follows:

Click “*First Page*” to view the first page of the log

Click “*Last Page*” to view the final page of the log

Click “*Previous Page*” to view the page just before the current page

Click “*Next Page*” to view the page just after the current page

Click “*Clear Log*” to delete the contents of the log and begin a new log

Click “*Refresh*” to renew log statistics

Time	Type	Message
Jun 12 19:21:11	notice	Wireless system with Mac address 00:18:e7:2f:19:0f associated
Jun 12 19:21:11	notice	Wireless system with Mac address 00:18:e7:2f:19:0f authenticated open
Jun 12 19:19:04	notice	Wireless system with Mac address 00:18:e7:2f:19:0f associated
Jun 12 19:19:04	notice	Wireless system with Mac address 00:18:e7:2f:19:0f authenticated open
Jun 12 19:17:17	notice	Wireless system with Mac address 00:18:e7:2f:19:0f authenticated open
Jun 12 19:15:56	notice	Wireless system with Mac address 00:18:e7:2f:19:0f authenticated open
Jun 12 19:15:56	notice	Wireless system with Mac address 00:18:e7:2f:19:0f authenticated open

**Time:** Displays the time and date that the log entry was created.

**Message:** Displays summary information about the log entry.

## Log Setting

This screen enables users to set Router Log parameters.



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**SMTP Authentication:** Selected the Enabled if the SMTP server need for authentication, fill in account name and password in SMTP Account field and SMTP Password field.

**SMTP Account:** If the SMTP Authentication enabled, fill in the SMTP account name here.

**SMTP Password:** If the SMTP Authentication enabled, fill in the password of the SMTP account here.

**SMTP Server:** Type your SMTP server address here.

**Send to:** Type an email address for the log to be sent to. Click "Email Log Now" to immediately send the current log.

**Log Type:** Enables users to select what items will be included in the log:

**System Activity:** Displays information related to WLAN Router operation.

**Debug Information:** Displays information related to errors and system malfunctions.

**Attacks:** Displays information about any malicious activity on the network.

**Dropped Packets:** Displays information about packets that have not been transferred successfully.

**Notice:** Displays important notices by the system administrator.

## Statistic

This screen displays a table that shows the rate of packet transmission via the WLAN Router's LAN, Wireless and WAN ports (in bytes per second).

The screenshot shows the 'Statistic' page of the Trendnet TEW-652BRP Wireless N Home Router. The left sidebar has a 'Status' section with 'Wireless' selected. The main content area is titled 'Statistic' and contains a table with four columns: Utilization (bytes), LAN, Wireless, and WAN. Two rows are shown: 'Send Peak' with values 68028, 1786, and 0 respectively; and 'Receive Peak' with values 6260, 231, and 0 respectively. A 'Reset' button is located at the bottom of the table. The top right corner of the interface displays 'Wireless N Home Router TEW-652BRP'. A copyright notice 'Copyright © 2008 TRENDnet. All Rights Reserved.' is at the bottom.

Utilization (bytes)		LAN	Wireless	WAN
Send	Peak	68028	1786	0
Receive	Peak	6260	231	0

Click “Reset” to erase all statistics and begin logging statistics again.

## Wireless

This screen enables users to view information about wireless devices that are connected to the WLAN Router.

The screenshot shows the 'Wireless' page of the Trendnet TEW-652BRP Wireless N Home Router. The left sidebar has a 'Status' section with 'Wireless' selected. The main content area is titled 'Wireless' and contains a table with two columns: Connected Time and MAC Address. One row is shown: 'Connected Time' is 22:14:32 and 'MAC Address' is 00:0c:43:25:73:92. The top right corner of the interface displays 'Wireless N Home Router TEW-652BRP'. A copyright notice 'Copyright © 2008 TRENDnet. All Rights Reserved.' is at the bottom.

Connected Time	MAC Address
22:14:32	00:0c:43:25:73:92

**Connected Time:** Displays the time duration of wireless clients connection to the WLAN Router.

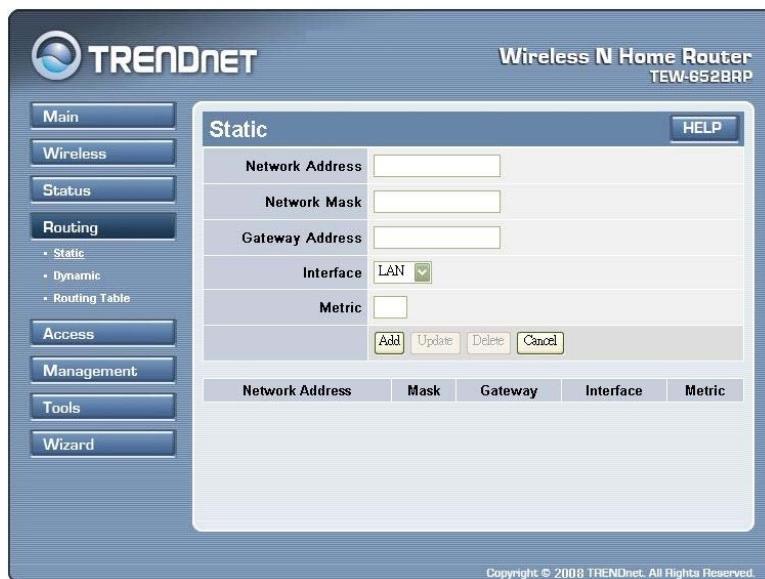
**MAC Address:** Displays the wireless client's MAC address.

## **Routing**

This selection enables users to set how the WLAN Router forwards data: Static and Dynamic. Routing Table enables users to view the information created by the WLAN Router that displays the network interconnection topology.

### **Static**

It enables users to set parameters by which the WLAN Router forwards data to its destination if the network has a static IP address.



**Network Address:** Type the static IP address the network uses to access the Internet. Contact the ISP or network administrator for this information.

**Network Mask:** Type the network (subnet) mask of the network. If this field is left blank, the network mask defaults to 255.255.255.0. Contact the ISP or network administrator for this information.

**Gateway Address:** Type the gateway address of the network. Contact the ISP or network administrator for this information.

**Interface:** Select an interface, WAN or LAN, to connect to the Internet.

**Metric:** Select which metric that the user wants to apply to this configuration.

**Add:** Click to add the configuration to the static IP address table at the bottom of the page.

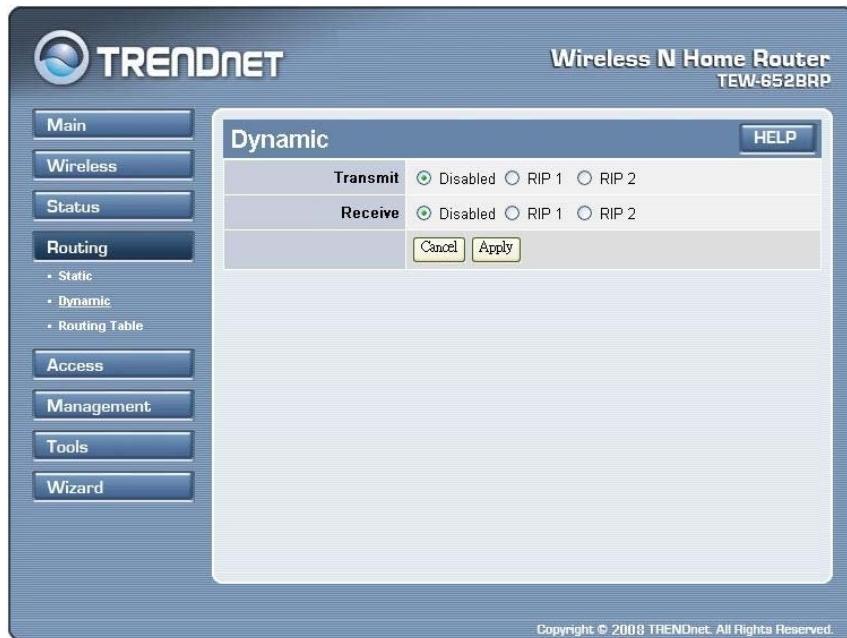
**Update:** Select one of the entries in the static IP address table at the bottom of the page, and after changing parameters, click "Update" to confirm the changes.

**Delete:** Select one of the entries in the static IP address table at the bottom of the page and click "Delete" to remove the entry.

**Cancel:** Click the **Cancel** button to erase all fields and enter new information.

## Dynamic

This screen enables users to set the dynamic routing parameters.



**Transmit:** Click the radio buttons to set the desired transmit parameters, Disabled, RIP 1, or RIP 2.

**Receive:** Click the radio buttons to set the desired receive parameters, Disabled, RIP 1, or RIP 2.

## Routing Table

This screen enables users to view the routing table of the WLAN Router. The routing table is a database created by the WLAN Router that displays the network interconnection topology.

The screenshot shows the 'Routing Table' section of the router's configuration interface. The left sidebar has a 'Routing' menu item selected, which includes options for 'Static', 'Dynamic', and 'Routing Table'. The main content area is titled 'Routing Table' and contains a table with the following data:

Network Address	Network Mask	Gateway Address	Interface	Metric	Type
192.168.10.0	255.255.255.0	0.0.0.0	LAN	0	Dynamic
239.0.0.0	255.0.0.0	0.0.0.0	LAN	0	Dynamic
127.0.0.0	255.0.0.0	0.0.0.0	Local Loopback	0	Dynamic

At the bottom right of the main content area, it says 'Copyright © 2008 TRENDnet. All Rights Reserved.'

**Network Address:** Displays the network IP address of the connected node.

**Network Mask:** Displays the network (subnet) mask of the connected node.

**Gateway Address:** Displays the gateway address of the connected node.

**Interface:** Displays whether the node is connected via a WAN or LAN.

**Metric:** Displays the metric of the connected node.

**Type:** Displays whether the node has a static or dynamic IP address

## Access

This page enables you to define access restrictions, set up protocol and IP filters, create virtual servers, define access for special applications such as games, and set firewall rules.

### Filters

Using filters to deny or allow the users to access to the internet. Three types of filters can be select: MAC, Domain/URL blocking, and Protocol/IP filter.



## MAC Filters



**MAC Filter:** Enables you to allow or deny accessing the internet.

**Disable:** Disable the MAC filter function.

**Allow:** Only allow computers with MAC address listed in the MAC Table.

**Deny:** Computers in the MAC Table are denied Internet access.

**MAC Table:** Use this section to create a user profile which internet access is denied or allowed. The user profiles are listed in the table at the bottom of the page. (Note: Click anywhere in the item. Once the line is selected, the fields automatically load the item's parameters, which you can edit.)

**Name:** Type the name of the user to be permitted/denied access.

**MAC Address:** Type the MAC address of the user's network interface.

**Add:** Click to add the user to the list at the bottom of the page.

**Update:** Click to update information for the user, if you have changed any of the fields.

**Delete:** Select a user from the table at the bottom of the list and click Delete to remove the user profile.

**Cancel:** Click **Cancel** to erase all fields and enter new information.

## Domain/URL Blocking

You could specify the domains that allow users to access or deny by clicking one of the two items. Also, add the specified domains in the text box.



- **Disable:** Disable the Domain/URL Blocking function.
- **Allow:** Allow users to access all domains except “Domains List”.
- **Deny:** Deny users to access all domains except “Domains List”.

**Domains List:** List Domain/URL you will Denied or Allowed.

- **Delete:** Select a Domain/URL from the table at the bottom of the list and click Delete to remove the Domain/URL.
- **Add:** Click to *Add* button to add domain to the Domains list.
- **Cancel:** Click the *Cancel* button to erase all fields and enter new information.

## Protocol/IP Filters

This screen enables you to define a minimum and maximum IP address range filter; all IP addresses falling within the range are not allowed accessing internet. The IP filter profiles are listed in the table at the bottom of the page. (Note: Click anywhere in the item. Once the line is selected, the fields automatically load the item's parameters, which you can edit.)



**Enable:** Click to enable or disable the IP address filter.

**Name:** Type the name of the user to be denied access.

**Protocol:** Select a protocol (TCP or UDP) to use for the virtual server.

**Port:** Type the port range of the protocol.

**IP Range:** Type the IP range. IP addresses falling between this value and the Range End are not allowed to access the Internet.

- **Add:** Click to add the IP range to the table at the bottom of the screen.
- **Update:** Click to update information for the range if you have selected a list item and have made changes.
- **Delete:** Select a list item and click Delete to remove the item from the list.
- **Cancel:** Click the *Cancel* button to erase all fields and enter new information.

## Virtual Server

This screen enables user to create a virtual server via the WLAN Router. If the WLAN Router is set as a virtual server, remote users requesting Web or FTP services through the WAN are directed to local servers in the LAN. The WLAN Router redirects the request via the protocol and port numbers to the correct LAN server. The Virtual Sever profiles are listed in the table at the bottom of the page.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which user can edit.

The screenshot shows the 'Virtual Server' configuration page of the TRENDnet TEW-652BRP router. The left sidebar has a 'Virtual Server' link under the 'Access' section. The main area has tabs for 'Main', 'Wireless', 'Status', 'Routing', 'Access', 'Management', 'Tools', and 'Wizard'. The 'Access' tab is active. The 'Virtual Server' sub-tab is selected. The top right shows 'Wireless N Home Router TEW-652BRP'. The 'Virtual Server' form includes fields for 'Enable' (radio buttons for 'Enable' and 'Disabled'), 'Name' (text input), 'Protocol' (dropdown menu set to 'TCP'), 'Private Port' (text input), 'Public Port' (text input), and 'LAN Server' (text input). Below the form is a table of existing virtual server profiles:

	Name	Protocol	LAN Server
<input type="checkbox"/>	Virtual Server FTP	TCP 21/21	0.0.0.0
<input type="checkbox"/>	Virtual Server HTTP	TCP 80/80	0.0.0.0
<input type="checkbox"/>	Virtual Server HTTPS	TCP 443/443	0.0.0.0
<input type="checkbox"/>	Virtual Server DNS	TCP 53/53	0.0.0.0
<input type="checkbox"/>	Virtual Server SMTP	TCP 25/25	0.0.0.0
<input type="checkbox"/>	Virtual Server POP3	TCP 110/110	0.0.0.0
<input type="checkbox"/>	Virtual Server Telnet	TCP 23/23	0.0.0.0
<input type="checkbox"/>	IPSec	UDP 500/500	0.0.0.0
<input type="checkbox"/>	PPTP	TCP 1723/1723	0.0.0.0
<input type="checkbox"/>	NetMeeting	TCP 1720/1720	0.0.0.0

At the bottom right of the table is a footer: 'Copyright © 2008 TRENDnet. All Rights Reserved.'

**Enable:** Click to enable or disable the virtual server.

**Name:** Type a descriptive name for the virtual server.

**Protocol:** Select a protocol (TCP or UDP) to use for the virtual server.

**Private Port:** Type the port number of the computer on the LAN that is being used to act as a virtual server.

**Public Port:** Type the port number on the WAN that will be used to provide access to the virtual server.

**LAN Server:** Type the LAN IP address that will be assigned to the virtual server.

- **Add:** Click to add the virtual server to the table at the bottom of the screen.
- **Update:** Click to update information for the virtual server if the user has selected a listed item and has made changes.
- **Delete:** Select a listed item and click **Delete** to remove the item from the list.
- **Cancel:** Click **Cancel** button to erase all fields and enter new information.

## Special AP

This screen enables users to specify special applications, such as games which require multiple connections that are blocked by NAT. The special applications profiles are listed in the table at the bottom of the page.

Note: When selecting items in the table at the bottom, click anywhere in the item. The line is selected, and the fields automatically load the item's parameters, which user can edit.

The screenshot shows the 'Special AP' configuration page of the TRENDnet TEW-652BRP router. The left sidebar menu includes Main, Wireless, Status, Routing, Access (with sub-options Filter, Virtual Server, Special AP, DMZ, Firewall Settings), Management, Tools, and Wizard. The 'Access' section is currently active. The main content area is titled 'Special AP'. It contains fields for 'Enable' (radio buttons for Enabled or Disabled, currently Enabled), 'Name' (text input field), 'Protocol' (dropdown menu set to TCP), 'Trigger' (dropdown menu set to Port Range), 'Port Range' (two input fields for start and end ports), and 'Incoming' (dropdown menu set to TCP). Below these are 'Protocol' and 'Port' fields. At the bottom are 'Add', 'Update', 'Delete', and 'Cancel' buttons. A table lists existing special application profiles:

Name	Trigger Port Range	Incoming Port
Battle.net	Any 6112-6112	Any 6112
Dialpad	Any 7175-7175	Any 51200-51201,51210
ICU II	Any 2019-2019	Any 2000-2038,2025-2051,2069,2085,3010-3030
PC-to-Phone	Any 12053-12053	Any 12120,12122,24150-24220
Quick Time 4	Any 554-554	Any 6970-6999

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**Enable:** Click to enable or disable the application profile. When enabled, users will be able to connect to the application via the WLAN Router's WAN connection. Click "Disabled" on a profile to prevent users from accessing the application on the WAN connection.

**Name:** Type a descriptive name for the application.

**Trigger:** Defines the outgoing communication that determines whether the user has legitimate access to the application.

- **Protocol:** Select the protocol (TCP, UDP, or \* for TCP+UDP) that can be used to access the application.
- **Port Range:** Type the port range that can be used to access the application in the text boxes.

**Incoming:** Defines which incoming communications users are permitted to connect with.

- **Protocol:** Select the protocol (TCP, UDP, or \* for TCP+UDP) that can be used by the incoming communication.
- **Port:** Type the port number that can be used for the incoming communication.
- **Add:** Click to add the special application profile to the table at the bottom of the screen.
- **Update:** Click to update information for the special application if user have selected a list item and have made changes.
- **Delete:** Select a list item and click **Delete** to remove the item from the list.
- **Cancel:** Click **Cancel** button to erase all fields and enter new information.

## DMZ

This screen enables users to create a DMZ for those computers that cannot access Internet applications properly through the WLAN Router and associated security settings.

Note: Any clients added to the DMZ exposes the clients to security risks such as viruses and unauthorized access.



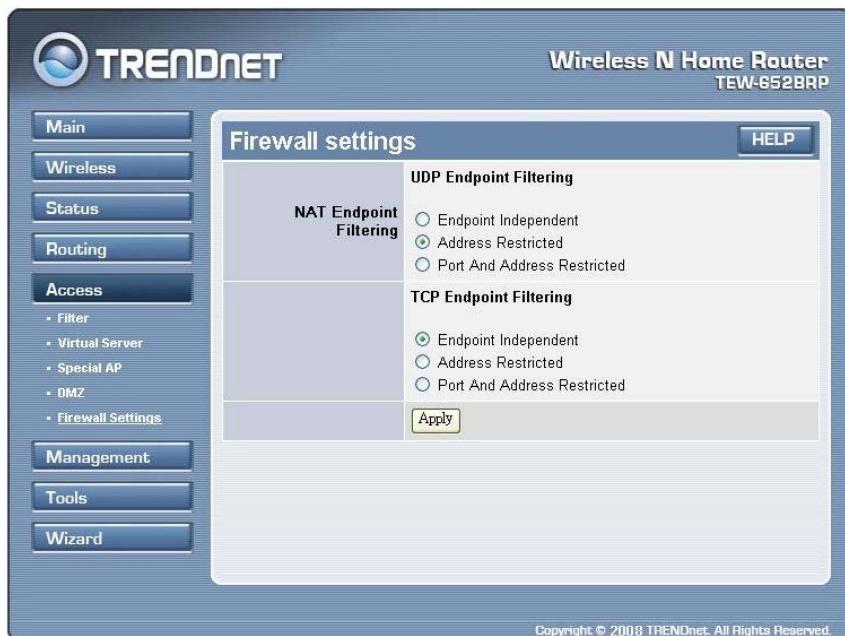
**Enable:** Click to enable or disable the DMZ.

**DMZ Host IP:** Type a host IP address for the DMZ. The computer with this IP address acts as a DMZ host with unlimited Internet access.

**Apply:** Click to save the settings.

## **Firewall Settings**

A firewall protects your network from the outside world, this screen enables users to setup the simple firewall function on the wireless router.



**Endpoint Independent:** Any incoming traffic sent to an open port will be forwarded to the application that opened the port.

**Address Restricted:** Incoming traffic must match the IP address of the outgoing connection.

**Address And Port Restriction:** Incoming traffic must match the IP address and port of the outgoing connection

## **Management**

Management enables users to set up the Remote Management feature.

### **Remote Management**

This screen enables users to set up remote management. Using remote management, the WLAN Router can be configured through the WAN via a Web browser. A user name and password are required to perform remote management.



**HTTP:** Enables users to set up HTTP access of the Port number, and Remote IP Range for remote management.

**Allow to Ping WAN Port:** Type a range of Router IP addresses that can be pinged from remote locations

**UPnP Enable:** UPnP is short for Universal Plug and Play that is a networking architecture that provides compatibility among networking equipment, software, and peripherals. The WLAN Router is an UPnP-enabled Router and will only work with other UPnP devices/software. If user does not want to use the UPnP functionality, select “Disabled” to disable it.

**PPTP:** Enables users to set up PPTP access for remote management.

**L2TP:** Enables users to set up L2TP access for remote management.

**IPSec:** Enables users to set up IPSec access for remote management.

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## Tools

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This page enables users to restart the system, save and load different settings as profiles, restore factory default settings, run a setup wizard to configure WLAN Router settings, upgrade the firmware, and ping remote IP addresses.

### Restart

Click “Restart” to restart the system in the event the system is not performing correctly.



## Settings

This screen enables users to save settings as a profile and load profiles for different circumstances. User can also load the factory default settings, and run a setup wizard to configure the WLAN Router and Router interface.



**Save Settings:** Click “Save” to save the current configuration as a profile that can load when necessary.

**Load Settings:** Click “Browse” and go to the location of a stored profile. Click “Load” to load the profile's settings.

**Restore Factory Default Settings:** Click “Restore” to restore the default settings. All configuration changes will lose.

## Firmware

This screen enables users to keep the WLAN Router firmware up to date.



Please follow the below instructions:

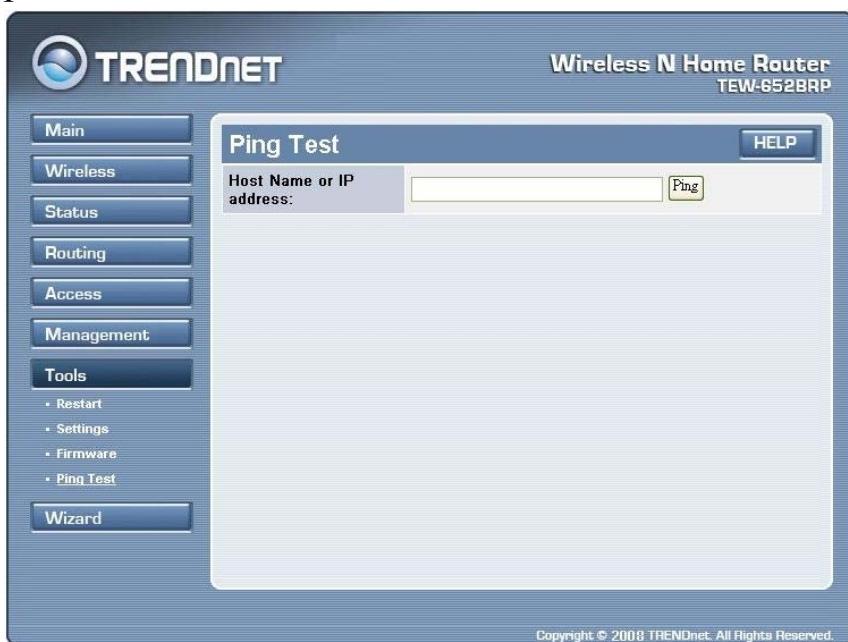
Download the latest firmware from the manufacturer's Web site, and save it to disk.

Click “**Browse**” and go to the location of the downloaded firmware file.

Select the file and click “**Upgrade**” to update the firmware to the latest release.

## Ping Test

The ping test enables users to determine whether an IP address or host is present on the Internet. Type the host name or IP address in the text box and click Ping.



## **TECHNICAL SPECIFICATIONS**

<b>General</b>	
Standards	IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.11n draft 2.0; IEEE 802.11g; IEEE 802.11b
Protocol	CSMA/CA
Radio Technology	DSSS/OFDM
Data Transfer Rate	802.11n mode: up to 300Mbps (auto sense) 802.11g mode: up to 54Mbps (auto sense) 802.11b mode: up to 11Mbps (auto sense) Ethernet: 10Mbps (half duplex), 20Mbps (full-duplex) Fast Ethernet: 100Mbps (half duplex), 200Mbps (full- duplex)
Receiver Sensitivity	802.11n: -62dBm typical @ 300Mbps 802.11g: -68dBm typical @ 54Mbps 802.11b: -85dBm typical @ 11Mbps
TX Power	802.11n: 14dBm typical 802.11g: 15dBm typical 802.11b: 18dBm typical
Network Cables	10BASE-T: 2-pair UTP Cat. 3,4,5 (100 m), EIA/TIA- 568 100-ohm STP (100 m) 100BASE-TX: 2-pair UTP Cat. 5 (100 m), EIA/TIA-568 100-ohm STP (100 m)
Frequency Range	2412 ~ 2484 MHz ISM band
Modulation Schemes	DBPSK/DQPSK/CCK/OFDM
Security	64/128-bits WEP Encryption; WPA, WPA-PSK, WPA2, WPA2-PSK
Channels	1~11 Channels (FCC) 1~13 Channels (ETSI)
Number of Ports	LAN: 4 x 10/100Mbps Auto-MDIX Fast Ethernet port WAN: 1 x 10/100Mbps Auto-MDIX Fast Ethernet port
<b>Physical and Environmental</b>	
DC inputs	5VDC 2.5A
Power Consumption	7watts (max)
Temperature	Operating: 0°C ~ 40° C, Storage: -10° ~ 70° C
Humidity	Operating: 10% ~ 90%, Storage: 5% ~ 90%
Dimensions	150 x 110 x 32mm (5.9 x 4.3 x 1.26in)
EMI:	FCC, CE

# Limited Warranty

TRENDnet warrants its products against defects in material and workmanship, under normal use and service, for the following lengths of time from the date of purchase.

TEW-652BRP	3 Years
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If a product does not operate as warranted above during the applicable warranty period, TRENDnet shall, at its option and expense, repair the defective product or deliver to customer an equivalent product to replace the defective item. All products that are replaced will become the property of TRENDnet. Replacement products may be new or reconditioned.

TRENDnet shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to TRENDnet pursuant to any warranty.

There are no user serviceable parts inside the product. Do not remove or attempt to service the product through any unauthorized service center. This warranty is voided if (i) the product has been modified or repaired by any unauthorized service center, (ii) the product was subject to accident, abuse, or improper use (iii) the product was subject to conditions more severe than those specified in the manual.

Warranty service may be obtained by contacting TRENDnet office within the applicable warranty period for a Return Material Authorization (RMA) number, accompanied by a copy of the dated proof of the purchase. Products returned to TRENDnet must be pre-authorized by TRENDnet with RMA number marked on the outside of the package, and sent prepaid, insured and packaged appropriately for safe shipment.

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**Governing Law:** This Limited Warranty shall be governed by the laws of the state of California.

**Note:** AC/DC Power Adapter, Cooling Fan, Cable, and Power Supply carry 1-Year Warranty



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## Customer Support

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## Product Warranty Registration

Please take a moment to register your product online.

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